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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,585	12/18/2001	Suk Won Choi	8733.534.00	6155

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EXAMINER

LEWIS, DAVID LEE

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,585

Applicant(s)

CHOI ET AL.

Examiner

David L Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizutani et al. (6392620 B1).**
2. **As in claim 1, Mizutani et al. teaches of a ferroelectric liquid crystal display, figures 1 and 2, comprising: a liquid crystal panel, **figure 1 item 2**, in which at least one liquid crystal cell a crossing area at of a gate line and a data line, **figure 2 items 8, 11, 1b**; a data processor supplying red, green and blue data signals to each of said at least one liquid crystal cells, **figure 2 item 23**; and a backlight in a stand-by state during a responding period of liquid crystal after a supplying period of said red, green and blue data signals, for generating red, green and blue lights corresponding to each of the red, green and blue data signals, **figure 3A item BL**.**

3. **As in claim 2, Mizutani et al. teaches of**, wherein said liquid crystal panel comprises: a upper substrate on which a common electrode and a first alignment film are sequentially disposed, figure 1 item 3a, column 5 lines 60-65; a lower substrate on which a thin film transistor, a pixel electrode and a second alignment film are sequentially disposed, figure 1 item 3b, column 5 lines 60-65; and a ferroelectric liquid crystal interposed between said upper substrate and said lower substrate, figure 1 item 2. **As in claim 3, Mizutani et al. teaches of**, wherein said backlight includes a backlight driver for supplying an electrical signal to generate red, green and blue light, figure 2 item 22. **As in claim 4, Mizutani et al. teaches of**, further comprising a backlight controller for supplying a control signal to generate red, green and blue light, figure 2 item 23. **As in claim 5, Mizutani et al. teaches of** said ferroelectric liquid crystal responds according to said red, green and blue data signals, column 3 lines 15-43.
4. **As in claim 6, Mizutani et al. teaches of** a method of driving a ferroelectric liquid display, comprising: sequentially supplying red, green and blue data signals to a liquid crystal cell formed at a crossing area of a gate line and a data line of a liquid crystal panel, **figure 3A item F1, figure 13 item F11**, liquid crystal in the liquid crystal cell responding to said red, green and blue data signals in a responding period, **figure 13 item LC response**; and sequentially generating red, green and blue lights corresponding to each of said red, green and blue data signals, **figure 13 item illumination/transmitted light quantify**.

5. **As in claim 7, Mizutani et al. teaches of** wherein a backlight is in a stand-by state during the responding period, figure 3A item BL. **As in claim 8, Mizutani et al. teaches of** wherein said red, green and blue data signals sequentially are applied to the liquid crystal cell at least once during a frame period, figure 3A item F1 and F2. **As in claim 9, Mizutani et al. teaches of** wherein the liquid crystal cell includes a ferroelectric liquid crystal, figure 2 item 2, column 6 line 1. **As in claim 10, Mizutani et al. teaches of** further comprising: supplying a red data signal to said liquid crystal cell and then irradiating a red light, during a frame period, figure 13 item F11 (R); supplying a green data signal to said liquid crystal cell and then irradiating a green light, during said frame period, figure 13 item F11 (G); and supplying a blue data signal to said liquid crystal cell and then irradiating a blue light, during said frame period, figure 13 item F11 (B). **As in claim 11, Mizutani et al. teaches of** wherein after each of the red, green and blue data signals is supplied, there is a time for the liquid crystal to respond to each respective data signal, figure 13 item LC response. **As in claim 12, Mizutani et al. teaches of** wherein after at least one of the red light, green light and blue light is irradiated for a predetermined time, figure 3A item R, another data signal for another color is immediately supplied, figure 3A item B.
6. **As in claim 13, Mizutani et al. teaches of** a liquid crystal display device, comprising: a liquid crystal panel, **figures 1 and 2**, including: a plurality of gate

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signal lines, figure 2 item 8; a plurality of data signal lines, **figure 2 item 11**; liquid crystal cells in a matrix at crossing points of the gate and data signal lines, the liquid crystal cells having a liquid crystal therein, **figure 2 item 1b**; a data driver for supplying data signals to the data signal lines, **figure 2 item 13**; a gate driver for supplying gate signals to the gate signal lines, **figure 2 item 12**; a controller for receiving a plurality of signals from an interface, **figure 2 item 23**; and a backlight in a stand-by state as the liquid crystal responds to the data signals after the data signals are supplied to the liquid crystal cells, **figure 2 item A, figure 3A item BL**.

7. **As in claim 14, Mizutani et al. teaches of** wherein the data signals include red, green and blue data signals, figure 3A item F1. **As in claim 15, Mizutani et al. teaches of**, wherein the plurality of signals include a control signal, figure 2 item 23, column 6 lines 50-60. **As in claim 16, Mizutani et al. teaches of** wherein the plurality of signals include a horizontal synchronization signal, column 6 lines 50-60, wherein said synchronization signal is one of horizontal and vertical as well known. **As in claim 17, Mizutani et al. teaches of** wherein the plurality of signals include a vertical synchronization signal, column 6 lines 50-60, wherein said synchronization signal is one of horizontal and vertical as well known. **As in claim 18, Mizutani et al. teaches of** wherein the plurality of signals include an input clock signal, column 7 lines 65-68. **As in claim 19, Mizutani et al. teaches of** wherein the plurality of signals include a data enable signal, column 7

lines 44-68. **As in claim 20, Mizutani et al. teaches of** wherein controller is capable of receiving a horizontal synchronization signal and a vertical synchronization signal and generating a gate start clock and a gate scanning pulse to be supplied to the gate driver, figure 2 item 23. **As in claim 21, Mizutani et al. teaches of** wherein the controller is capable of receiving data signals and generating red, green and blue data signals and a data enable signal to be supplied to the data driver, figure 2 item 23.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 2002/0000960, 2003/0058210, 2002/0008683, 6570554.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L Lewis whose telephone number is 703 306-3026. The examiner can normally be reached on M, T, TH, F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 703 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-4700.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

March 16, 2004



BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600